

# PATENT COOPERATION T EATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/CA2004/000620

International filing date (day/month/year)  
27.04.2004

Priority date (day/month/year)

International Patent Classification (IPC) or both national classification and IPC  
B22F9/22

Applicant  
FALCONBRIDGE LIMITED

#### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

#### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

#### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II Priority**

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1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

4. Additional observations, if necessary:

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	5-8,10,19-21
	No: Claims	1-4,9,11-18
Inventive step (IS)	Yes: Claims	
	No: Claims	1-21
Industrial applicability (IA)	Yes: Claims	1-21
	No: Claims	

2. Citations and explanations

**see separate sheet**

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**Box No. VI Certain documents cited**

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1. Certain published documents (Rules 43*bis*.1 and 70.10)

and / or

2. Non-written disclosures (Rules 43*bis*.1 and 70.9)

**see form 210**

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**Box No. VIII    Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**Re Item V.**

- 1 The following document is referred to in this communication:
- D1: GB-A-1 099 464 (ALBERTA RES COUNCIL) 17 January 1968 (1968-01-17)
  - D2: US-A-2 677 607 (BEIDLER EDWARD A ET AL) 4 May 1954 (1954-05-04)
  - D3: US-A-3 997 331 (TITHER DENIS) 14 December 1976 (1976-12-14)
  - D4: PATENT ABSTRACTS OF JAPAN vol. 0080, no. 09 (M-268), 14 January 1984 (1984-01-14) -& JP 58 171506 A (SUMITOMO KINZOKU KOUZAN KK), 8 October 1983 (1983-10-08)
  - D5: PATENT ABSTRACTS OF JAPAN vol. 1998, no. 09, 31 July 1998 (1998-07-31) -& JP 10 088205 A (SUMITOMO METAL MINING CO LTD), 7 April 1998 (1998-04-07)
  - D6: US-A-2 396 794 (KROLL WILLIAM J) 19 March 1946 (1946-03-19)
  - D7: GB 863 766 A (INTERNAT NICKEL COMPANY OF CAN) 29 March 1961 (1961-03-29)

**2 INDEPENDENT CLAIMS 1-4**

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-4 is not new in the sense of Article 33(2) PCT.
- a. Document D1 discloses (the references in parenthesis applying to this document): a process in which a composition containing a nickel compound in combination with at least 20wt% nickel chloride is reduced with hydrogen at a temperature of 345-500 °C (see example 3). Hence the subject matter of claim 1 is not novel.
  - b. Apart from the nickel chloride, the composition contains other nickel compounds (page 1, lines 47-51 and lines 66-70) which are reducible by hydrogen at a temperature above 300 °C.
  - c. Furthermore, the composition can contain other metal chloride compounds (see examples 6 and 7), which are equally reducible at temperatures above 300 °C. Therefore, also the subject matter of claims 2 and 4 is also not considered as novel.
  - d. For a person skilled in the art it is implicitly revealed that once the reduction reaction is initiated, HCl will form in case any reducible chloride compounds are

present and therefore, the subject matter of claim 3 can not be considered as novel either.

Moreover, D2 discloses an alternative method in which the chloride is not only present as a compound but also as part of the reducing gas and thereby takes away the novelty of claim 3 as well.

**3 INDEPENDENT CLAIMS 5-8**

- 3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 5-8 does not involve an inventive step in the sense of Article 33(3) PCT.

Steps a-b of claims 5-8 correspond to the process described in claims 1-4 respectively. The processes described in claims 5-8 differ from those of claims 1-4 in that they add an additional step (step c) of reacting the active nickel powder with CO at atmospheric or superatmospheric pressure to obtain nickel carbonyl. Steps a and b are known from D1 or D2 (see point 2.1 a-d herein above). The reaction of active nickel with CO at atmospheric pressure (and at low temperature) is however known from D7 for the same purpose of obtaining nickel carbonyl. Hence, it would be obvious to the person skilled in the art, namely when the same result is to be achieved, to apply this feature with corresponding effect to an active nickel powder according to document D2 or D3, thereby arriving at nickel carbonyl according to claims 5-8, respectively.

**4 DEPENDENT CLAIMS 9-21**

Dependent claims 9-21 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

**Re Item VIII.**

**Clarity (Art. 6PCT)**

According to Article 6 PCT the claims have to be clear and concise. Claims 1-8, 14 and 18 do not fulfil the requirements of Art.6 PCT for the following reasons :

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Expressions like "preferably" and "such as" have no limiting effect on the scope of the claim; that is to say, the feature following any such expression is to be regarded as entirely optional (see PCT Guidelines (ISPE/1, published 11/03/2004), Part II, Chapter 5, §5.40).